X10DR®

LIBERATE YOUR MOBILE RADIO

User Manual

WIRELESS PACIFIC™

This product is designed to radiate low levels of radio energy in accordance with global government approved regulatory standards. It features Adaptive Power Output. APO automatically adjusts the RF power output in accordance with signal required. This features limits and reduces extraneous radiated radio energy. This also helps minimize battery consumption and extends battery shift life. Do not touch the antenna when operational. Keep Secure Microphone antenna 10mm (2/5") or more away from your body to ensure exposure levels remain at or below the maximum levels. Keep your body at least 20cm/8" from external antennas connected to the X-Ponder mobile charger unit.

If you would like to review or print out a larger version of this user manual on-line, then go to:

www.wirelesscorpltd.com

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Nomenclature

SM = Secure Microphone
MD = X-Ponder Mobile Charger

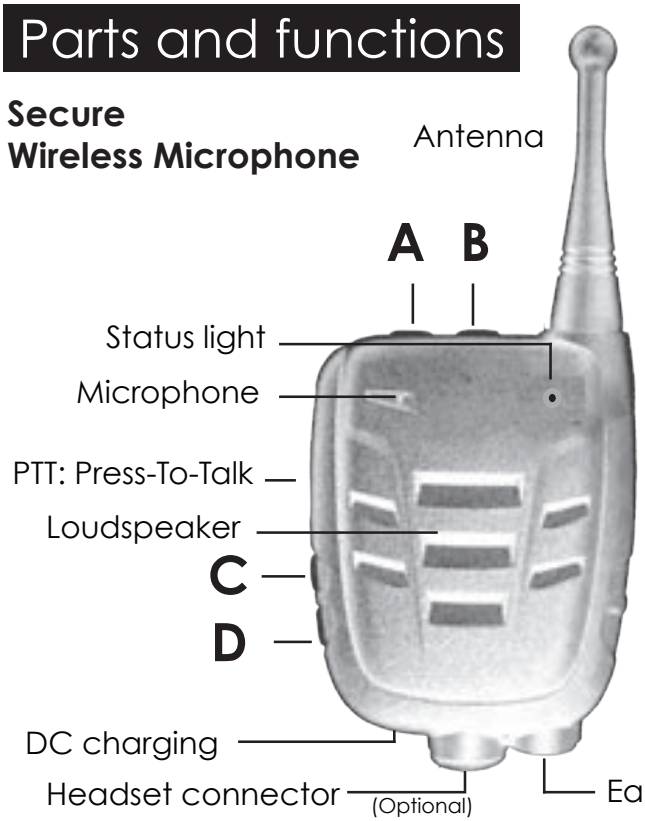
X10DR_ _-X_1

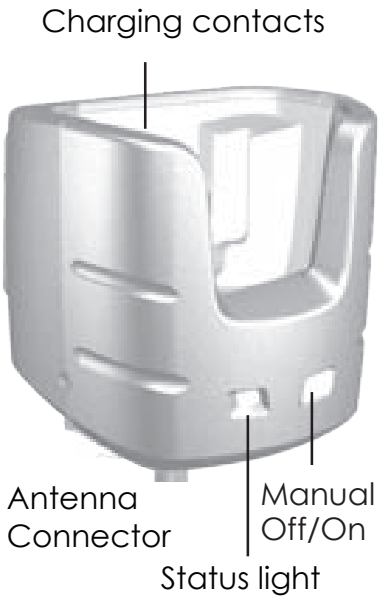
Product Name

U = Standard Model
X = Advanced 128 Bit Model

Parts and functions

Secure Wireless Microphone





X-Ponder Mobile Charger

DEFAULT				ALTERNATE			
A	Volume down	**C**	Emergency	**A**	Emergency	**C**	Volume up
B	Volume up	**D**	Off/On	**B**	Off/On	**D**	Volume down

Volume up: adjusts speaker audio louder.
Volume down: adjusts speaker audio softer - minimum setting.
Microphone: talk in a normal strength voice about 3 to 5cm (2").
PTT: press to talk - 3 quick beeps when pressed*. - When out of range the unit will sound a slow beeping tone alert.
Emergency: A quick beep sounds when pressed* and then triggers host radio's emergency function. Hold down button as per mobile radio's emergency button operating instructions or as advised by your supplier - When out of range the unit will sound a slow beeping tone alert when the button is pressed.

Off/On: hold for about 5 seconds to turn on or off. The Secure mic will sound escalating or de-escalating tones to advise status.
DC charging: place into charger to automatically re-charge.
Headset connector: use with associated** headsets/accessories.
Earpiece jack: allows private listening via 3.5mm earpieces.** Inserting the 3.5mm plug mutes the loudspeaker.
Loudspeaker: Delivers loudspeaker audio - Automatically mutes when inserted into X-Ponder mobile charger.*
Status light: glows blue* when connected and operational. Flashes when "out of range" or when one unit is off.
Antenna Connector: Allows connection of long range external antenna or replacement of short range internal type.
**Normal configuration - see Installation section for alternatives. **Buy separately as needed.*

Wearing the X10DR Secure Mic

X10DR is designed to best perform when worn with the antenna protruding above your shoulder.

Different types of carry clips are available including:

Standard clip *(default) Replacement part No: XSMC*
This is the traditional type allows the X10DR Secure Wireless Microphone to be clipped to work vests, clothing, epaulettes, etc. For maximum performance 360° around your vehicle it is recommended that it be worn in a location that allows the antenna to protrude above you body. Rare earth magnets secure the microphone in the X-ponder charging cradle.

Velcro® mount clip *Replacement part No: XVMC*
The Velcro mount type features a large Velcro "hook" disc on the back of the microphone. A matching supplied Velcro "loop" patch should be ideally sewn or pinned to the users work attire/ vest in the shoulder area to allow the antenna to protrude above you body to ensure maximum range. Rare earth magnets secure the microphone in the X-ponder charging cradle.

Removable clip *Replacement part No: XRMC*
This type has a removable larger spring belt clip which allows the X10DR Secure Wireless Microphone to be clipped to heavier work vests, leather clothing, thick epaulettes, etc. It locks mechanically into the X-ponder charging cradle.

Note: Neodium, rare earth magnets, are fragile and can easily break if hit or heavily dropped and will then need to be replaced. (Not covered by warranty) Take extra care when handling them. Keep away from credit cards or like items, that can be **damaged by strong magnetic fields**.

Operation Description

Congratulations on choosing the revolutionary X10DR® Secure Wireless Microphone. Pronounced "extender". This incredibly compact, lightweight personal accessory extends the power of the mobile radio to the palm of your hand, whether in and out of the vehicle. X10DR stands ready to re-define mobile network design by increasing user functionality and mobility whilst dramatically improving the effectiveness of your infrastructure investment. This visionary solution provides users out of vehicle communications with the power and performance of their mobile radio.

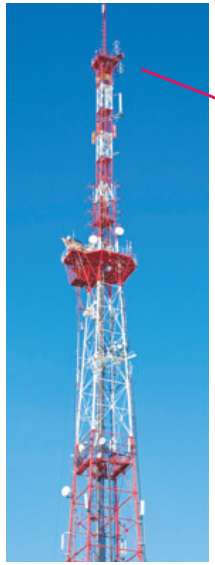
X10DR cuts the cord and for the first time puts the microphone and radio system access into the palm of the users hand when away from the vehicle, delivering true mobility without system compromise. Users can feel totally confident their private communications are kept secure due to the smart 64 bit/128 bit encryption (model dependent) functionality. X10DR uniquely incorporates HLC™ "Hard Line Coding" connection protocol that virtually eliminates any possibility of outside intrusion between the X10DR and your vehicle's mobile. When the mission is critical, X10DR delivers.

X10DR unleashes the power of your mobile radio allowing wireless communication with a fixed located or vehicle radio: 60, 150, 300 metres (yards) or more.* Our EVR™ enhanced voice resilience audio ensures users can communicate with clean clear audio, with the power and range of their mobile radio, whilst not being tied to the vehicle allowing the user to be truly mobile in every operational environment.

Finally, if you go out of range, the blue LED will flash and the unit will sound a warning tone if you press the PTT or Emergency button so you know to move back into your communication zone or to be simply aware. This ability to now communicate whilst outside your vehicle significantly enhances a safer and more secure work environment for everyone who carries an X10DR Secure Wireless Microphone.

WIRELESS PACIFIC™

How it works



X10DR®

LIBERATE YOUR MOBILE RADIO

60.... 150.... 300 Metres

SECURE WIRELESS COMMUNICATION

via your vehicle's mobile radio

Basic Operation

Power On & Off

Usually the unit will be installed such that it powers off & on with the host mobile radio or by a manual switch fitted by your installation mechanic. You can manually turn off the X-Ponder mobile charger by pressing the front grey button for 3 seconds and the blue LED will extinguish. You can do the same on the Secure Wireless Microphone by pressing the grey button. The secure mic will sound a de-escalating tone. To power On, do the same, releasing the button once the LED lights. The secure mic will sound an escalating tone. The blue LED on both units will flash momentarily and then go solid once they're connected.

Volume Control

When you first activate the unit you should first ensure your mobile radio's volume is set to a comfortable listening level. You may then adjust the Secure Wireless Microphone volume by pressing the right top button to increase or the left to decrease. There are 5 listening levels. The minimum level is not zero but is designed so you can still quietly hear radio traffic and not inadvertently turn off the audio.

Transmitting/Receiving

Use like any two way radio speaker Mic i.e. press the large black PTT button to talk and release to listen. A short Talk permit tone sequence will sound. Speak with a normal strong clear voice about 3-5cm (2") from the microphone port. Do not yell as this causes loss of clarity.

Out of Range Indication

X10DR provides the user with audible feedback should the user move out of range from their vehicle. Note: if you walk out of range the blue status LED will flash. If you then push the PTT an alert tone will sound to let you know your call is not getting though. Pressing the Emergency button when Out of Range will provide a similar indication. Depending on your location, you may find you need to walk back about 10 meters (yards) closer to your vehicle to re-connect - Blue status light will then glow solid.

Talk Permit tone

X10DR provides talk permit tones so users know when to start speaking so that words are not lost at the start of a transmission. If, the channel is busy, no channel grant or you are out of range, the user will hear the X10DR talk permit tones followed by the radio BUSY or Out of Range tone. (can be disabled by field programmer)

Charging Confirmation Tone

X10DR provides the user with a discrete tone whenever the X10DR Secure Mic is returned to the charging cradle. This discrete chirp ensures the user has a positive indication that the X10DR Secure Mic is charging and seated correctly in the cradle.

Earpiece Operation

X10DR provides the user with a weather protected 3.5mm earpiece jack to allow use of industry standard earpieces thereby providing additional privacy of communications. A range of earpiece styles are available to suit individual user preferences. Plugging in an earpiece disables the internal loudspeaker.

Emergency

If enabled, the emergency button can be used to trigger and reset the emergency function in your suitably equipped mobile radio. The time you hold the button is the time your mobile radio sees the emergency command. So if your radio requires you to hold the front panel emergency button for 2 secs, then you should hold the Wireless Microphone emergency button for 2 seconds. When you press the emergency (orange) button a short beep will sound. (Can be disabled by use of X10DR Field programmer) See page 22 for other Emergency operations information.

Stealth Mode

For special applications the secure Mic's Blue LED on the front of the Secure Mic can be temporarily disabled. This is achieved by holding down the VOLUME UP/DOWN (both) while powering up the unit. To turn the LED back on, simply power down and power back up. The feature may be of particular use to"Law Enforcement Users" who may prefer in some situations to not be walking around at night with a blue light glowing on their shoulder.

Multiple Unit Operation

Multiple X10DR Secure Wireless Microphones with EVR™ enhanced audio may be connected to one radio device by use of the optional **XIB** Interface box accessory. Operation is identical to single user operation with the added benefit that, each party also hears each other talk when they transmit. This functionality is ideal for police: where two officers are assigned to a patrol van, or ambulance: where 3 paramedics can communicate at a scene as well as with their control room. It is also ideal for office use allowing a number of personnel to access a local base or control station or remote control console while moving around a building, shop or warehouse.
Note: communication between X10DR users is always routed back through their respective X-ponder mobile chargers and not direct between units. Ask your dealer for more information on this unique and highly regarded operational capability.

INSTALLERS NOTE:
Use of the XBDA "booster" accessory is NOT compatible with multiple unit installations. Multiple unit operation requires that antennas are located ideally >50cm (20") apart to minimize the opportunity for cross unit interference. Attention needs to be made when locating antennas so that each X10DR provide similar coverage patterns to ensure balanced unit to unit communications.

Motorcycle Operation

The X10DR Secure Wireless Microphone is especially suitable for motorcycle use. Models fitted with a 6 pin Hirose industrial connector allow easy connection to a helmet microphone and dual earpiece fit out. Making use of the handlebar PTT input, a bike can be configured so that, when the rider is on the bike and presses the handle bar PTT, their headset microphone audio is sent out over the radio. Off the bike but still wearing the helmet, the user can press the Secure Wireless Microphone PTT to talk,.
Finally, if the user removes their helmet, they can unplug from the Hirose connector on the base of the unit and just use the Secure Wireless Microphone like standard.

Headset Operation

The 6 pin Hirose industrial connector also allows use of a variety of heavy duty and lightweight headsets and *application specific* audio accessories to enhance you communications capability. Use either the headset/accessory's integral PTT or use the speaker mic PTT to transmit. The internal speaker is immediately disabled when a headset is plugged in.

Accessory Mic Boost

Users can increase an audio accessory's microphone gain on X10DR models fitted with the Hirose accessory port to cater for sensitivity requirements or variations in headset manufacturer's specifications. To activate the higher sensitivity, the X10DR's blue VOLUME UP button should be held down while powering up. The user will thereafter hear 2 short confirmation beeps at the end of each start up tone sequence. To revert to standard operation, the unit should be powered up with the VOLUME DOWN blue button held down.

NOTE: this does NOT effect the sensitivity of the X10DR's normal internal front cover microphone.

N.B. See page 36 for safety warning regarding use of headsets.

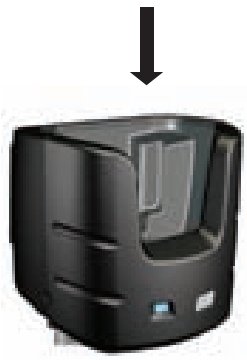
Covert Operation

The small size of the X10DR unit may allow for its selective use in covert applications. The remote monitor PTT function means someone else can enable "listening" without the covert operative having to touch anything. As audio is duplex (bidirectional) you can also talk to them at the same time allowing vital messages to be passed on even when an operative is transmitting. The advanced model : X10DR-XX1 unit provides 128 bit encryption version to ensure high levels of voice security, while the standard X10DR-XU1 versions provide 64 bit encryption. Both encryption types are based on the well recognized highly secure 'SAFER" format.

Technical Notes

Battery - Charging

The X10DR Secure Wireless Microphone should be charged overnight before initial use. Thereafter it may be left in the charger unit between calls, or may be worn all day and placed back at the end of the work day. The unit is designed to provide about 12 hours operation between charges even on the busiest radio channels. On quiet channels it can last up to 3 days. When the battery does start to go flat, a short beep will sound once every 2 minutes. It will then automatically power down after 30 minutes, so you should plan to re-charge the unit as soon as is practical once the chirps are heard.



A fully discharged battery will typically re-charge in less than 4 hours, or less if only partially discharged. The battery will re-charge even if the mobile charger unit has been turned off. The microphone's blue status light will indicate charging mode.

Simply place into pocket. The X10DR will beep to show correct placement.

NB: do not allow debris to fill the pocket as it may prevent the microphone from making contact with the charging pins Keep all liquids well away from the charging cradle at all times.

Li-POL

Please recycle thoughtfully

Replacing the battery pack

When you notice the X10DR sounding a **small chirp,** it indicates the battery is nearly flat and should be re-charged. The unit will self power down after 30 minutes when voltage drops to that level. When you notice this occurring far more often than usual, it may mean it is time for the battery to be replaced.

Like all re-chargeable products, periodic replacement of the internal battery is required. The Secure Wireless Microphone features a 1200mA Lithium Polymer battery to provide typically well over 12 hours operation when used on a busy radio channel.
To maximize the life of a Lithium battery its is better to keep it topped up by returning it to the charger often rather than waiting for it to first go flat - which was the opposite case with older nickel based batteries. Typically you can expect to get about **500 plus** full re-charge cycles before the battery will require replacement.
The process is simple and should only take your radio service supplier about 5 minutes to replace and test. Replacement of the battery should be ONLY undertaken by a qualified service technician so as to ensure no damage occurs to internal circuitry and to ensure the housing's weatherproof integrity is not compromised. The replacement battery part number is: **XSMB-C12: 1200mA Li-Ion battery.**

After replacement, the Secure Wireless Microphone **must** be first placed back into the mobile charger and will initially should be charged for 8-10 hours prior to commencement of use. Depending on the situation it may also need to be "re-connected" to the mobile charging unit)

Re-connection

Each X10DR Secure Wireless Microphone is uniquely connected to a specific X-Ponder mobile charger. This ensures that all communications between the two units are secure and cannot be compromised or interfered with by a third party. In the event of a Secure Wireless Microphone being lost, it can be permanently disconnected from the X-Ponder mobile charger by connecting with a new replacement Secure Mic unit.

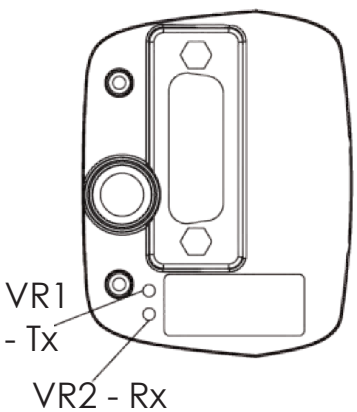
How to re-connect: hold the speaker mic while pressing both the blue up and down volume controls until the blue LED flashes and the speaker mic beeps.(after 8 secs.) Now place the speaker mic back into the mobile charger. After a few seconds the speaker mic will sound a confirmation two tone and the blue LED on both units will glow solid to indicate connection is complete.

Press blue buttons together until LED flashes and unit beeps

Audio adjustments

Qualified service personnel only!

The Secure Wireless Microphone system is usually factory set for standard audio levels required to provide satisfactory mobile radio voice levels. Should the volume be too soft or loud and distorted, it may require readjustment to set the correct level for your particular installation.



Using a radio systems analyser to monitor the radio channel adjust the internal trim pots so as to achieve maximum permitted voice deviation within minimum voice clipping (distortion). *See Page 16 for adjustment points.*

Antennas

As compared to the basic internal 1/4 wave stub antenna, the **XMMA** magnetic mount antenna provides enhanced coverage when placed on an unobstructed area of a vehicle's roof and should be connected via its low loss coax cable to the RP-SMA-F output on the mobile charger. **MAKE SURE YOU FULLY TIGHTEN!**

The **XMAK** multipolarity antenna provides even greater coverage in multipath - non line of sight - situations. It should be bracket mounted onto an unobstructed area above the vehicle's roof line and should be connected via the supplied low loss coax cable to the RP-SMA-F output connector. **MAKE SURE YOU FULLY TIGHTEN!**

Alternatively, where approved, the **XBDA** bidirectional amplifier may also be installed to further enhance in-building coverage from your vehicle. The XBDA is installed in series between the antenna and the mobile charger using a 20cm (8") length of RG174 coax cable and a 5M (17') length of LMR200 coax to ensure a maximum of 1W output to the antenna. **Only qualified radio service personnel should install a XBDA so as to ensure the effective radiation level remain in full compliance with regulatory requirements in your country of operation.**

Warning: **Keep your body at least 20cm (8") away from vehicle mounted external antenna.**

See page 32 for other important details.

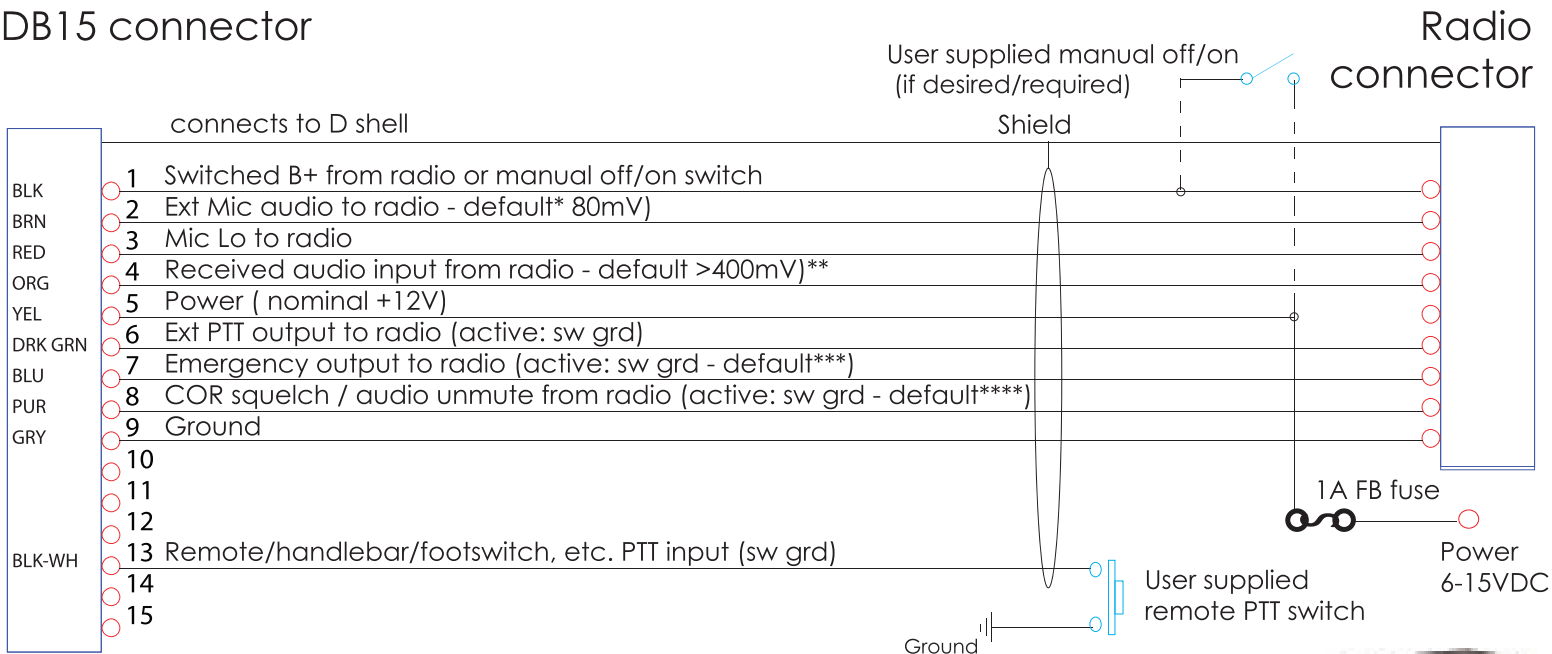
In the event of a damaged or lost antenna, only original replacements should be used so as to not compromise the units type approval certification or performance.

The speaker microphone uses a unity gain ground independent antenna for maximum multi-directional range.

The mobile charger output has a reverse polarity SMA female antenna connector, as does the XBDA.

Mobile charger DB15 connector
Typical wiring diagram

DB15 connector



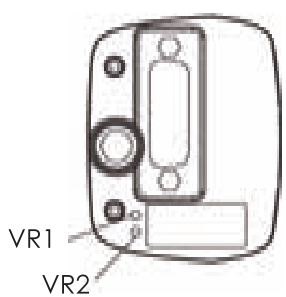
* Mic audio can be increased to >400mV via VR1 trim pot - use hole in base of mobile charger.

** Received audio can be adjusted via VR2 trim pot - use hole in base of mobile charger.

*** Emergency output can be changed to "active high" by swapping solder jumpers SP1 & SP2.

**** COR/Squelch/unmute can be changed to "active high" by fitting solder jumper SP3.

NOTE: Pin 5 should be connected directly to battery to ensure charging when unit is turned off.



Installation & Connections

1. Switched B+: Used to automatically turn on/off Secure Wireless Microphone if connected to host radio switched B+ output, if not, the user should supply manual on/off switch. Note: internal speaker microphone battery will still charge when the unit is turned off.

2. External Mic Audio: Audio from the Wireless Microphone that is to be transmitted over the host mobile radios transmitter. It is factory set for approx 80mV RMS.

3. Radio Mic Lo: This is microphone **audio ground**.

4. Receive Audio: Receive audio from the host mobile radio that you wish to be sent to the Wireless Microphone. Ideally, it should be sourced pre-volume control but can be post, as long as the host mobile radio's speaker audio has been sent for comfortable listening in the vehicle.

5. Power: connected via a 1 amp in-line fuse preferably direct to a vehicle's 12V battery but can be any voltage from about 6-16VDC. Current consumption is typically 60mA/Max current 420mA@6V. (12V = <200mA)

6. Ext. PTT: Switched ground output designed to cause the host mobile radio to transmit.

7. Emergency: Output intended to connect to the host mobile radio's emergency input. It is normally provides an active switched ground but can be configured to be active open circuit. The time held low (or high) is the exact time that the user presses the Emergency button. This output could be used for other functions such as to trigger the panic function of a car alarm system, providing it is correctly "buffered" so as to not cause damage to the mobile charger.

8. COR/squelch/audio unmute: Input designed to monitor the receive status of the host mobile radio. Ideally, it is driven by an "audio unmute" switched ground command in the host mobile. i.e. when the radio's speaker unmutes to pass audio then the COR input should toggle in sync.

Alternatively, it could be driven by the radio's unsquelch command that factors in reception of required correct CTCSS tones, etc. An internal dip switch caters for active low or high inputs.

9. Ground: DC /Digital ground connection.

13. Remote PTT: This provides a remote alternative to transmit secure microphone audio via the host mobile radio. You may choose to connect to a motorbike handle bar PTT, a hidden palm or footswitch, a wireless PTT device, or even to an output from the host mobile equipped to provide remote radio monitoring of the secure microphones users audio. In such remote monitoring cases, use of the remote PTT input causes the sensitivity of the INTERNAL secure microphone to be greatly increased, so a control room operator can more easily monitor the health or safety of the user. There is no increased audio gain when a headset is connected to the audio port at the base of the secure microphone.

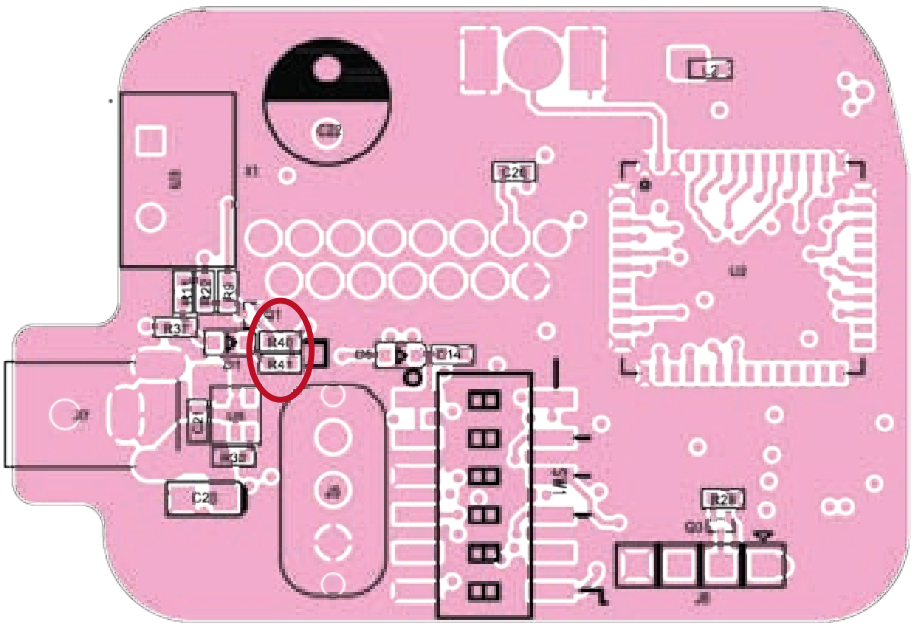
Alternate Configurations

Some alternate configurations are available by use of the internal dip switches in the X-Ponder mobile charger unit. These are provided to allow compatibility with different mobile radio types.

Re-configuration of these switches should only be undertaken by qualified radio service personnel.

To access, first remove the rear mounting plate from the mobile charger. Next remove the 4 case screws to access internal PCB. Take extreme care when handling the PCB to prevent damage by electrostatic discharge (ESD) or to internal wiring. Re-assemble carefully.

Mobile Charger PCB layout



Installation dip switch configuration:

- For N/C emergency trigger:	Sw1 On Sw2 Off (default)
- For N/O emergency trigger:	Sw1 OFF Sw2 ON
- For active low radio COR	Sw3 OFF (default)
- For active high radio COR	Sw3 ON
- For Vox enable	Sw4 ON(default)
- For Vox disable*	Sw4 OFF
- Speaker disable in cradle	Sw6 ON(default)
- Speaker enable in cradle	Sw6 OFF#

R40 Default: not fitted	- Fit 0 ohm** for DC shift COR detect
R41 Default: fitted	- Remove for DC shift COR detect

** or as appropriate

Prevents the secure mic from muting when placed inside a charger. This option is generally recommended only when the host radio has no internal or external speaker.
Note: may cause the re-charge time to increase significantly on a very busy radio channel.

Multiple Units

XIB Interface Box

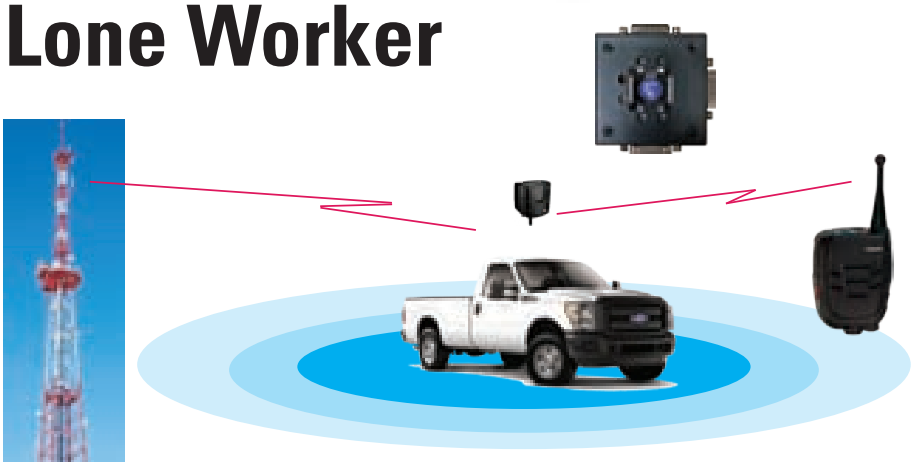
The XIB allows multiple X10DR's to be connected to the one mobile radio. X10DR units can hear each others communications as well as conversations over the network. The interface unit connects to the host radio via a XMC series interface cable.

Each X10DR connects to the XIB by way of short 50cm (20") XIB-CK connecting cables. Note: Antenna placement is critical and should be ideally placed >50cm (20") from each other to minimize inter-unit interference. This unit is designed to cross–connect two/three X10DR units to one host radio. The radio connects to the RADIO port on the XIB. Units can be cascaded to allow connection of more than three X10DRs to the one mobile.

ALIGNMENT: Before setting up the interface box, first connect each X10DR directly one at a time to the host radio and **carefully** adjust VR1 & VR2 trimpots as described on page 14. After this the X10DR units are ready to be connected to the interface box. Next, talk on the 1st X10DR and listen to the sound coming from the 2nd X10DR. Then talk on the 2nd X10DR and compare sound coming from the 1st X10DR. Adjust the MAIN IN and 2ND IN trimpots so each X10DR has the same loudness. Next, talk on the 1st X10DR and compare the host radio transmit audio quality compared with the host radio fist microphone by listening or another radio. If necessary adjust the RADIO OUT trimpot to match. Finally, talk on the other radio and adjust the RADIO IN trimpot so that the received audio on the X10DR is loud and clear, but not distorted, and matches the audio level when talking on the other X10DR. Repeat if a third X10DR is fitted.

Note: Incorrect level settings may cause distortion or noisy audio, especially on some digital radios.

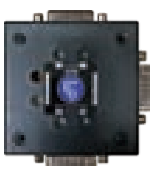
Lone Worker



XFB-LW Lone Worker Function Box

The XFB-LW provides "lone worker" functionality to the X10DR. Dip switches allow custom parameter setting for activity time interval (time in which a user must momentary press their PTT), as well as the user prealert tone interval (period where the X10DR user hears a warning tone that an emergency condition is imminent). Pressing the PTT will reset the imminent emergency condition. Additionally, a 10 Sec *Live Mic* feature can also be selected. The XFB-LW connects to the host radio via an XMC series interface cable. The X10DR connects to the XFB-LW by a XIB-CK connecting cable.

ALIGNMENT: First preset the XFB-LW DIP switches (see Pg 24). Before setting up the XFB-MR, first connect the X10DR directly to the host radio and **carefully** adjust VR1 & VR2 trimpots as described on page 14. Now the X10DR can be connected to the XFB-LW. Next, talk on the X10DR and listen on another radio to the transmit and receive audio coming from the host radio. Adjust Radio IN if necessary so that audio levels again match the radio's fist mic. Now adjust Radio OUT to make sure X10DR speaker audio is loud and clear.



1 x XFB-DP
*1 x XMC-****
1 x XIB-CK

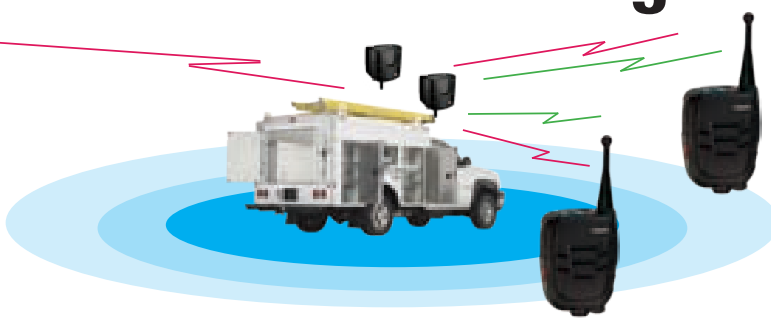
XFB-DP Function Box

The XFB-DP allows dual functionality of the orange side button. A short (<0.5 Sec) can provide a unique switched ground to a connected mobile I/O port, while a 3 second press can be used to drive the radio's emergency input or other desired function. Other functions include:

i/ 145 or 300 mSec Rx audio digital delay - Dip switch selectable.
ii/ DB15 port with local on/off & emergency input/outputs.

ALIGNMENT: First preset the XFB-DP DIP switches (see Pg 20). Use the same alignment procedure as for the XFB-LW above.

Talkaround with Emergency



1 x XFB-TA
*1 x XMC-****
2 x XIB-CK

XFB-TA Talk-Around Function Box

The XFB-TA allows two/ X10DR to have local (talkaround) operation where users can talk locally "off net" by using the orange side button as a secondary PTT. To talk over the radio channel, the normal PTT button is used. Individual trimpots on the module allow the audio levels to be matched across both X10DRs and the host radio. To activate Emergency, the user must first press the PTT and then the orange button for >1 second. The XFB connects to the host radio via a XMC series interface cable. Each X10DR connects to the XFB-TA via a XIB-CK cable.

ALIGNMENT: First preset the XFB-TA DIP switches (see Pg 26). Next, connect each X10DR, one at a time, directly to the host radio and adjust **carefully** VR1 & VR2 trimpots as described on page 14. After this the X10DRs are ready to be connected to the XFB-TA. Now talk on the Main X10DR and listen to the sound coming from the 2ND X10DR. Then talk on the 2nd X10DR and compare sound coming from the Main X10DR. If necessary, adjust the MAIN IN and 2ND IN trimpots so that each X10DR has the same volume. Next, talk on the Main X10DR and listen on another radio to compare the host radio's transmit audio quality and loudness when compared with its fist microphone. Adjust the RADIO OUT trimpot to match. Finally, talk on another radio and adjust the RADIO IN trimpot so that the received audio on the X10DR's are loud but not distorted, and match the audio levels when talking on the other X10DRs.

Multiple Radios

Public Address

XFB-MR Multi-Radio Function Box

The XFB-MR allows 2 mobile radios to be connected to the one X10DR unit. A unique marker tone* is attached to the tail of each secondary radio reception to inform users which radio's audio they just heard. A marker tone* trimpot is provided to allow the tone level to be set to the users desired listening level. The XFB unit can be configured to either maintain the secure microphone's normal emergency functionality with PTT only possible on RADIO 1, or alternatively, to use the orange button to transmit on the secondary channel. In which case, the user must then **first** press the PTT and then the orange button for >1 second to activate emergency. The X10DR connects to the XFB-MR by a XIB-CK connecting cable and the radios via two XMC series interface cables.

ALIGNMENT: First preset the XFB-MR DIP switches (see Pg 26). Begin by connecting the X10DR directly to the first radio and **carefully** adjust VR1 & VR2 trimpots as described on page 14. The X10DR can then be connected to the XFB-MR. Next, talk on the X10DR and listen on another radio to the transmit and receive audio on the 1st radio. If necessary adjust Radio 1 IN so that audio levels again match the radio's fist mic and adjust Radio 1 OUT to ensure the X10DR's speaker audio is loud and clear. Talk on the 2nd radio (use orange button) and compare sound levels with the 1st radio. Adjust the RADIO 2 IN trimpot so each transmission has identical volume. Next, talk on the X10DR and listen (via another radio) to the transmit and receive audio coming from the 2nd radio. Adjust Radio 2 IN so that it matches the 2nd radio's fist mic before adjusting Radio 2 OUT for optimum X10DR speaker audio volume and clarity. Finally, adjust the TONE trimpot to set the marker tone* to a useful but not annoying level.

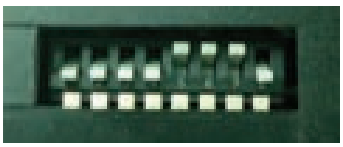
Public Address Function

Alternatively, the XFB-MR second port can be attached to the vehicle's Public Address system to allow the user to talk over the vehicle's public address system by simply pressing the orange button X10DR microphone. To activate emergency the user must **first** press the PTT and then the orange button for >1 second. The X10DR connects to the XFB via a XIB-CK connecting cable. The XFB unit then connects to the host radio via a model specific XMC series interface cable. Connection to the vehicle's public address system is via a XMC-GEN cable connected to the RADIO 2 port. The installer should connect the PA enable to Pin 6 of the X10DR interface and the PA mic input should connect to Pin 2.

ALIGNMENT: First preset the XFB-MR DIP switches (see Pg 26). Adjust RADIO 1 levels as above. PA audio level out can be set via adjusting the IN trimpot on the RADIO 2 port.

* Not compatible with radios that cannot provide a COR/TOR/spk unmute indicate, etc. input.

XFB DIP Switch Settings



XFB-LW DIP SWITCH SETTINGS

1 UP Audio delay disabled
1 DN Audio delay enabled*
2 UP Direct audio disabled
2 DN Direct audio enabled*
3 UP Audio delay time = 260mS
3 DN Audio delay time = 145mS
4 UP Ungated radio rx audio
4 DN Gated radio rx audio
5 UP Lone alert time MSB off
5 DN Lone alert time MSB on
6 UP Lone alert time LSB off
6 DN Lone alert time LSB on
7 UP Live mic disabled
7 DN Live mic enabled
8 UP Radio COR active low
8 DN Radio COR active high

*Emergency function triggered by holding buttons for 1 second.

XFB-TA DIP SWITCH SETTINGS

1 UP X10DR PTT triggers PTT on Radio 1 & Radio 2.
1 DN X10DR PTT triggers PTT on Radio 1 only.
2 UP X10DR orange button triggers emerg. function*
(selectable by options below).
2 DN X10DR orange button PTT on Radio 2 only.
Trigger emergency by first pressing PTT and then orange buttons together.*
3 UP Radio 1 emergency function off.
3 DN Radio 1 emergency function on.
4 UP Radio 2 emergency function off.
4 DN Radio 2 emergency function on.
5 UP Radio 1 emergency function active ground (NO).
5 DN Radio 1 emergency function active open circuit (NC).
6 UP Radio 2 emergency function active ground (NO).
6 DN Radio 2 emergency function active open circuit (NC).
7 UP No live mic for emergency function.
7 DN 10 second live mic for emergency function.
8 UP Early X10DR models
8 DN Later X10DR models

*Emergency function triggered by holding buttons for 1 second.

NB: Each XFB model has different firm/hardware

XFB-DP DIP SWITCH SETTINGS

1 UP Audio delay disabled
1 DN Audio delay enabled*
2 UP Direct audio disabled
2 DN Direct audio enabled*
3 UP Audio delay time = 260mS
3 DN Audio delay time = 145mS
4 UP Ungated radio rx audio
4 DN Gated radio rx audio
5 UP N/A
5 DN N/A
6 UP N/A
6 DN N/A
7 UP Dual function disabled
7 DN Dual function enabled
8 UP Radio COR active low
8 DN Radio COR active high

*Emergency function triggered by holding buttons for 1 second.

XFB-MR DIP SWITCH SETTINGS

1 UP X10DR PTT triggers PTT on Radio 1 & Radio 2.
1 DN X10DR PTT triggers PTT on Radio 1 only.
2 UP X10DR orange button triggers emerg. function*
(selectable by options below).
2 DN X10DR orange button PTT on Radio 2 only.
Trigger emergency by first pressing PTT and then orange buttons together.*
3 UP Radio 1 emergency function off.
3 DN Radio 1 emergency function on.
4 UP Radio 2 emergency function off.
4 DN Radio 2 emergency function on.
5 UP Radio 1 emergency function active ground (NO).
5 DN Radio 1 emergency function active open circuit (NC).
6 UP Radio 2 emergency function active ground (NO).
6 DN Radio 2 emergency function active open circuit (NC).
7 UP No live mic for emergency function.
7 DN 10 second live mic for emergency function.
8 UP Early X10DR models
8 DN Later X10DR models

*Emergency function triggered by holding buttons for 1 second.

WPiTRQ-X10 WPTEP/TL

WPEB/TL

WPEH/TL

WPLWH-X10

WPSHD

WPSHC-NEX

X10DRDC
Desktop Charger

WPSHC-HIR

WPWLP-HIR

XMC-* Series

XFB

XIB

XIB-CK

Audio & General Accessories

The following antenna accessories are available from your X10DR Secure Wireless Microphone supplier:

X10DRDC-* - Desktop 3-4 hour charger includes AC/DC plug pack for X10DR Secure Microphone.
*specify AC plug: US(2P), UK, EU(2P), AU.

WPLWH-X10 - Lightweight headset, noise cancelling type with in-line PTT & Hirose 6 pin connector.

WPSHD - heavy duty headset, noise cancelling type with on cup PTT & volume control.
(requires one of the following cables)

WPSHC-HIR - WPSHD to Hirose Interface curly cable

WPSHC-NEX - WPSHD cable with 4P Nexus connector (for use with WPWLP-HIR)

WPWLP-HIR - In-line PTT cable with Hirose connector and wireless finger PTT button.
(also use with Peltor series headsets)

WPEH - Large black "across ear" earpiece.

WPTEP - Acoustic tube "quick disconnect"

WPEB - Black ear bud "in-ear style"
(above 3 for use with 3.5mm jack on Secure Mic)

WPiTRQ-X10 - Advanced ear lapel mic with Hirose con
(requires following TL series earpiece)

WPEH-TL - Large black "across ear" earpiece for iTRQ.

WPTEP-TL - Acoustic tube "quick disconnect" for iTRQ.

WPEB-TL - Black ear bud "in ear style" for iTRQ.

XIB -2/3 way interface box.
(Requires XIB-CK for each X10DR.)

XFB-** - Special function box.
(**different types available-Requires XIB-CK cable)

XMC-** - Interface cable, 1.5m (5') length.
(**different models available)

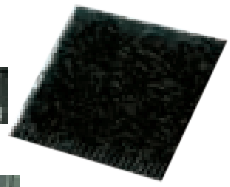
XMC-3M - Interface extension cable, 3m (10') length.

XIB-CK - X10DR to XIB/XFB cable, 50cm(20") length.

Replacement Parts & Installation Accessories

Includes labels magnet & screw

XSMC-RK Standard Mic Clip Retrofit kit



Includes labels Velcro hook (sow on) magnet & screw

XVMC-RK Velcro® Mic Clip Retrofit kit

Includes labels & belt clip

XRMC-RK Removeable Mic Clip Retrofit kit

XRBC Belt Clip Replacement part

XSMB-C12 Li Ion Battery Replacement Part

XMCA X-Ponder internal antenna

XSMA Secure Mic antenna

XBDA

Basic Model

X10DRMD-XU1

X10DRSM-XU1

Advanced Model (128 Bit)

X10DRMD-XX1

X10DRSM-XX1

XMAK

XMMA

XMDM

XSMC-RF - Spring clip back cover retrofit kit.

XVMC-RF - Velcro mount back cover retrofit kit.

XRMC-RF - Removable clip back cover retrofit kit.
XRBC - Spare removable belt clip for XRMC.

XSMA - Antenna for Secure Mic or XMMA.
XMCA - Internal antenna for X-Ponder charger.

XSMB-C12 - 1200mA Li-Ion battery for Secure Mic.

X10DRSM-XU1 - Replacement basic secure mic.
* order with XHC if Hirose conn.required.
X10DRMD-XU1- Replacement basic mobile charger. (X-Ponder)
X10DRSM-XX1 - Replacement 128Bit secure mic.
X10DRMD-XX1- Replacement 128Bit mobile charger. (X-Ponder)
XMAK - Unity gain, bracket mount, multi-polarity antenna kit with 5m (17') low loss LMR200 (equivalent) coax and fitted RP SMA-M and unfitted N-type F connector.

XMMA - Unity gain magnetic mount 1/4 wave ground independent antenna kit with 3.5m (12') low loss LMR200 (equivalent) coax and fitted RP SMA-M connector.

XBDA - 1W Tx /9dB Rx gain bidirectional amp with 20cm/8" RG174 coax tail & 1m/39" power cable. (Available only where approved)

XMDM - Mobile X-Ponder multi-position vehicle mount bracket.

Type Acceptance

RADIO AND TELEVISION INTERFERENCE

The equipment described in this manual generates, uses, and radiates radio-frequency energy. If it is not installed and used correctly—it may cause interference with radio and television reception.

CE DECLARATION

This equipment has been tested and found to comply with the following harmonised European Norms:

•EN300328 (radio and telecommunications terminal equipment)

•EN55024 (electromagnetic immunity) •EN55022 Class B (electromagnetic emissions) •EN 60950 (electrical safety) •EN301489 (electromagnetic compatibility and radio spectrum matters) Based on the results of these tests, Wireless Corporation declares that the above mentioned devices conform to Article 10.1 of the European Council Directive 89/336/EEC, and their amendment Directive 93/68/EEC, and to the Directive 1999/5/EC and indicates this conformity by the CE-sign on each device. The device must be installed and operated in strict accordance with the instructions given in this user manual. Any changes or modifications to this product that were not specifically authorised will invalidate this declaration.

FCC NOTICE

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

You can determine whether the equipment is causing interference by disconnecting power. If the interference stops, it was probably caused by the equipment. If the equipment does cause interference to radio or television reception, you may be able to correct the interference by using one or more of the following measures:

•Rotate the television or radio's antenna until the interference stops.

•Move the Wireless Microphone farther away from the television or radio.

If necessary, consult your two way radio dealer or an experienced radio/television technician for help. Changes or modifications to this product not authorized by Wireless Corporation Ltd could void the FCC Certification and negate your authority to operate the product.

Notice : Changes or modifications not expressly approved by the party for compliance could void the user's authority to operate the equipment.

IMPORTANT NOTE:

To comply with the FCC RF exposure compliance requirements, no change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device.

INDUSTRY CANADA:
This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Warranty

Wireless Corporation Ltd (WCL) warrants each new product sold by WCL to be free from defects in material and workmanship under normal use and service. The obligation and liability of WCL under this warranty is limited to the repair or replacement at its factory, at the option of WCL, of any such product which proves defective within the quoted warranty period, twelve (12) months for Wireless Pacific products after delivery, and is found to be defective in material and workmanship by WCL inspection. Products of warranty consideration shall be returned with all transportation charges prepaid to WCL or our nominated local service supplier in shipping containers which are adequate to prevent loss or damage in shipment. WCL will pay the return carriage costs for Wireless Pacific products. Products repaired or replaced under this warranty are warranted for the unexpired portion of the original warranty. This warranty is invalid if the factory-applied serial number, date code label, or product label has been altered or removed from this product . WCL shall not be obligated or liable under the warranty for apparent defects which examination discloses are due to tampering, misuse, neglect, improper storage, acts of nature, physical abuse, normal wear and all cases where the products are disassembled by other than authorised WCL representatives. In addition, WCL shall not be obligated or liable under this warranty unless the date of delivery to the first end user shall be within one (1) month from the date of delivery to the original purchaser, if different from the first end user, and further provided that written notice of any defect shall be given to WCL within thirty (30) days from the date such defect is first discovered. In no event will WCL accept consequential damages for products supplied and are then found to have become defective.

Repairing or Modifying X10DR:
Never attempt to repair or modify X10DR yourself. X10DR does not contain any user-serviceable parts, Disassembling an X10DR, including the removal of external screws and back cover, may cause damage that is not covered under the warranty. If an X10DR has been submerged in water, punctured, or subjected to a severe fall, do not use it until you take it to an WCL Authorized Service Provider. Service should only be provided by WCL or an WCL Authorized Service Provider. If you have questions or for service information, contact WCL or an WCL Authorized Service Provider.

Important Safety and Handling Information

To avoid injury, read all operating instructions and the following safety information before using X10DR. For downloadable versions of the latest X10DR User Guide, visit: www.wirelesscorpltd.com

WARNING: Failure to follow these safety instructions could result in fire, electric shock, or other injury or damage to X10DR or other property. Read all safety instructions for any products and accessories before using with X10DR. WCL is not responsible for the operation of, or any damage caused by, third-party accessories or their compliance with safety and regulatory standards.

Radio Frequency Interference:
Radio frequency emissions from electronic equipment can negatively affect the operation of other electronic equipment, causing them to malfunction. Although X10DR is designed, tested and manufactured to comply with regulations governing radio frequency emission in countries such as the United States, Canada, the European Union, and Japan, the wireless transmitters and electrical circuits in the X10DR may cause interference in other electronic equipment. Therefore, please take the following precautions:
i/Aircraft: Use of X10DR may be prohibited while travelling in aircraft.
ii/Vehicles: radio frequency emissions from X10DR may affect electronic systems in motor vehicles. Check with the manufacturer or its representative regarding your vehicle.
iii/Pacemakers: The Health Industry Manufacturers Association recommends that a minimum separation of 15 cm (6 inches) be maintained between a handheld wireless phone and a pacemaker to avoid potential interference with the pacemaker. Persons with pacemakers:

- *Should always keep X10DR more than 15 cm (6 inches) from the pacemaker when turned on.*
- *Should not carry X10DR in a breast pocket.*
- *Should use the ear opposite the pacemaker to minimize the potential*
- *for interference If you have any reason to suspect that interference is taking place, turn X10DR off immediately.*
- *X10DR may interfere with some hearing aids. If you experience interference, consult the hearing aid manufacturer or your physician for alternatives or remedies.*

v/ Other Medical Devices: If you use any other personal medical device, consult the device manufacturer or your physician to determine if it is adequately shielded from radio frequency emissions from X10DR.
vi/Health Care Facilities: Hospitals and health care facilities may use equipment that is particularly sensitive to external radio frequency emissions. Turn X10DR off when staff or posted signs instruct you to do so.
vii/Blasting Areas and Posted Facilities: To avoid interfering with blasting operations, turn off the X10DR when in a "blasting area" or in areas posted "Turn off two-way radio." Obey all signs and instructions.

Exposure to Radio Frequency Energy:
The unit transmits and receives radio frequency (RF) energy through its antennas. The antennas are located at the top edge of the unit. The Wireless Speaker Microphone is designed and manufactured to comply with the limits for exposure to RF energy set by international regulatory agencies, including the FCC of the United States, IC of Canada, MIC of Japan, and the Counsel of the European Union, among others. The unit has been tested and meets the FCC, IC, and European Union RF exposure guidelines for 802.15 operation. **T**o ensure exposure levels remain at or below the maximum safe levels, when carrying the unit ONLY use the Wireless Speaker Microphone with the manufacturer's supplied clothing clip or a non-metalic holder that ensures the antenna remains greater than 10mm (2/5 inch) from your body at all times. An external antenna is connected to the output connector on the mobile charger or to the output connector on the XBDA bidirectional amplifier. Always keep your body at least 20cm (8") from the vehicle mounted external antenna. **The XBDA is only approved for use with the X-Ponder unit when in accordance with individual country type approval regulations.**

Potentially Explosive Atmospheres:
Turn off X10DR when in any area with a potentially explosive atmosphere. Do not charge X10DR, and obey all signs and instructions. Sparks in such areas could cause an explosion or fire, resulting in serious injury or even death.
Areas with a potentially explosive atmosphere are often, but not always, marked clearly. Potential areas may include: fuelling areas (such as gas stations); below deck on boats; fuel or chemical transfer or storage facilities; vehicles using liquefied petroleum gas (such as propane or butane); areas where the air contains chemicals or particles (such as grain, dust, or metal powders); and any other area where you would normally be advised to turn off your vehicle engine.

Battery Replacement:
Do not attempt to replace the rechargeable battery in X10DR yourself. The battery should be replaced only by WCL or an WCL Authorized Service Provider. The battery should be re-cycled/disposed of thoughtfully.

Antenna Replacement:
Only use the antennas supplied. Use of other antenna types will void type approval.
This radio transmitter (IC:11443A-X10DRMD) was approved by Industry Canada to operate with the antenna types listed below the maximum permissible gain and required antenna impedance for each antenna type indicated. Types of antennas is not included in this list, having a higher gain than the maximum gain indicated this type are strictly prohibited for use with this device.

Cet émetteur radio (identifier le dispositif par numéro de certification ou le numéro de modèle de la catégorie II) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-après le gain maximal autorisé et de l'impédance d'antenne requise pour chaque type d'antenne indiqué. Types d'antennes ne sont pas inclus dans cette liste, ayant un gain supérieur au gain maximum indiqué ce type sont strictement interdits pour une utilisation avec cet appareil.

Informations importantes de sécurité et de manutention

Pour éviter toute blessure, lisez toutes les instructions et les consignes de sécurité suivantes avant d'utiliser X10DR. Pour les versions téléchargeables de la dernière version du Guide de l'utilisateur de X10DR, visitez: www.wirelesscorpltd.com

AVERTISSEMENT: *Le non-respect de ces consignes de sécurité peut provoquer un incendie, de choc électrique ou d'autres blessures ou de dommages à X10DR ou d'autres biens. Lisez toutes les instructions de sécurité pour tous les produits et accessoires avant d'utiliser avec X10DR. CMT n'est pas responsable de l'exploitation, ou tout dommage causé par des accessoires tiers ou de leur conformité aux normes de sécurité et réglementaires.*

Radio Frequency Interference:
L'émission de fréquences radio émises par les équipements électroniques peuvent affecter négativement le fonctionnement des autres appareils électroniques, les obligeant à un dysfonctionnement. Bien X10DR est conçu, testé et fabriqué conformément aux règlements régissant l'émission de radiofréquences dans les pays comme les États-Unis, le Canada, l'Union européenne et le Japon, les émetteurs sans fil et les circuits électriques dans le X10DR peut provoquer des interférences avec d'autres équipements électroniques. Par conséquent, s'il vous plaît prendre les précautions suivantes:
i / Avion: L'utilisation de X10DR peut être interdite dans les avions.
ii / Véhicules: les émissions de radiofréquences par des X10DR peuvent affecter les systèmes électroniques des véhicules à moteur. Vérifiez auprès du fabricant ou de son représentant votre véhicule.
L'exposition à l'énergie radioélectrique :
L'unité émet et reçoit des fréquences radio (RF) par l'intermédiaire de ses antennes. Les antennes sont situés au niveau du bord supérieur de l'unité . Le Président de microphone sans fil est conçu et fabriqué pour respecter les limites d'exposition à l'énergie RF fixées par les organismes de réglementation internationaux, y compris la FCC des États-Unis , du Canada IC , MIC du Japon , et l'avocat de l'Union européenne , entre autres . L'appareil a été testé et répond aux FCC , IC , et l'Union européenne RF normes d'exposition applicables 802.15 opération. Pour assurer des niveaux d'exposition restent égales ou inférieures aux limites maximales de sécurité , pour transporter l'appareil , utilisez uniquement le Président de microphone sans fil avec fourni des vêtements clip de fabricant ou un support non métallique qui assure l'antenne reste supérieure à 10 mm (2/5 po) du votre corps à tout moment. Une antenne externe est connectée au connecteur de sortie du chargeur mobile ou au connecteur de sortie de l'amplificateur bidirectionnel XBDA . Toujours garder votre corps au moins 20 cm (8 ") de thevehicle antenne externe installée . Le XBDA n'est approuvé pour une utilisation avec l'unité X - Ponder lorsque conformément à la réglementation en matière d'homologation de chaque pays .
Atmosphères explosibles:
Désactiver X10DR dans des zones avec une atmosphère potentiellement explosive. Ne chargez pas X10DR, et respectez tous les panneaux et instructions. Des étincelles dans de telles zones pourraient causer une explosion ou un incendie, causant des blessures graves ou même la mort.
Les zones à atmosphère potentiellement explosive sont souvent, mais pas toujours, clairement indiquées. Les zones potentielles comprennent: les zones de carburant (comme les stations d'essence), au-dessous du pont des bateaux, de carburant ou de transfert ou au stockage de produits chimiques, les véhicules utilisant du gaz de pétrole liquéfié (comme le propane ou le butane), des zones où l'air contient des produits chimiques ou des particules (le grain, la poussière ou les poudres métalliques) et tout autre endroit où il vous serait normalement recommandé d'arrêter le moteur de votre véhicule.

XBDA Use
Under Industry Canada regulations, this radio frequency power amplifier may only be used with the transmitter with which the amplifier has been certified by Industry Canada. The certification number for the transmitter with which this amplifier is permitted to operate is IC:11443A-X10DRMD.

En vertu des règlements d'Industrie Canada, cet amplificateur de fréquence radio de faible puissance ne peut être utilisé avec l'émetteur avec lequel l'amplificateur a été certifié par Industrie Canada. Le numéro de certification pour l'émetteur avec lequel cet amplificateur est autorisée à opérer est IC: 11443A-X10DRMD.

Charging your X10DR:
To charge X10DR, use only the WCL mobile or desktop charger.
When you use the WCL desktop charger to charge X10DR, make sure that the power adapter is fully assembled before you plug it into a power outlet. Then insert the WCL AC/DC plug pack firmly into the power outlet. Do not connect or disconnect the WCL AC/DC plug pack with wet hands. The WCL AC/DC plug pack may become warm during normal use. Always allow adequate ventilation around the WCL AC/DC plug pack and use care when handling. Unplug the WCL AC/DC plug pack if any of the following conditions exist:
1/ The power cord or plug has become frayed or damaged.
2/ The adapter is exposed to rain, liquid, or excessive moisture.
3/ The adapter case has become damaged.
4/ You suspect the adapter needs service or repair.
5/ You want to clean the adapter.

Cleaning your X10DR:
Clean X10DR immediately if it comes into contact with any contaminants that may cause possible malfunctions—for example, ink, dyes, makeup, dirt, food, oils, and lotions. To clean X10DR, unplug all cables and turn off X10DR (press and hold the manual On/Off button). Then use a soft, slightly damp cloth. Don't use abrasive household or industrial cleaners, aerosol sprays, solvents, alcohol, ammonia to clean X10DR.

Connectors and Press Buttons:
Never force a connector into a port or apply excessive pressure to a button, because this may cause damage that is not covered under the warranty. If the connector and port don't join with reasonable ease, they probably don't match. Check for obstructions and make sure that the connector matches the port and that you have positioned the connector correctly in relation to the port. Not all Hirose 6 pin accessories are fully compatible with X10DR. Under some conditions, certain accessories may affect X10DR wireless performance. Reorienting or relocating X10DR and the connected accessory may improve wireless performance.

Acceptable Temperature Extremes:
X10DR is designed to be normally operated in temperatures between -10° and 45°C (14° to 113°F) and stored in temperatures between -20° and 50°C (-4° to 122°F). Lower or higher temperature conditions might shorten battery life or cause X10DR to temporarily stop working correctly. Leaving X10DR in a

parked vehicle or in direct sunlight can cause X10DR to exceed these storage or operating temperature ranges. Avoid dramatic changes in temperature or humidity when using X10DR, as condensation may form within the unit. When you're using X10DR or charging the battery, it is normal for X10DR to get warm.

Driving Safely:
Use of X10DR while driving a vehicle or riding a motorbike may be distracting. If you find using X10DR disruptive or distracting while driving or riding, pull off the road and park before making or answering a call. Use of X10DR alone or with headphones (even if used only in one ear) while driving or riding is not recommended and is illegal in some countries. Check and obey the laws and regulations regarding the use of mobile devices like X10DR in the areas where you drive or ride.

Air Bag Equipped Vehicles:
An air bag inflates with great force. Do not store X10DR or any of its accessories in the area over the air bag or in the air bag deployment area.
Carrying and handling X10DR:
X10DR contains sensitive components. Do not drop, disassemble, microwave, burn, paint, or insert foreign objects into X10DR. Do not use X10DR if it has been damaged—for example, if X10DR is cracked, punctured, or damaged by water.

Headset use warning

Headsets and earpieces used with this product are capable of delivering sounds at loud volumes. Exposure to such sounds can result in permanent hearing loss damage. The volume level may vary based on conditions such as host radios volume settings and the environment.

Please read the following safety guidelines below prior to using a headset or earpiece:

1. Prior to using this product follow these steps:
   - Before putting on the headset, turn the volume control to its lowest level,
   - Put the headset on, and then slowly adjust the volume control to a comfortable level.
2. During the use of this product:
   - Keep the volume at the lowest level possible and avoid using the headset in noisy environments where you may be inclined to turn up the volume;
   - If increased volume is necessary, adjust the volume control slowly.
   - If you experience discomfort or ringing in your ears, immediately discontinue using the headset and consult a physician.

With continued use at high volume, your ears may become accustomed to the sound level, which may result in permanent damage to your hearing without any noticeable discomfort. Using a headset while operating a motor vehicle, motorcycle, watercraft may be dangerous, and is illegal in some jurisdictions. Check your local regulations and laws.

Specifications

Subject to change or improvement without notice

The equipment has been designed to meet the following global specifications:

Dimensions:	88x28x63mm (spk mic) 80x80x60 (chgr) 3.46x1.1x2.48" (spk mic) 3.15x3.15x2.36"(chgr)
Weight:	149 grams (spk mic) 125 grams (chgr)
Frequency:	2.40-2.48GHz FH Spread Spectrum
Protocol:	802.15.4 based derivative
RF Power:	<100mW / X-Ponder <1W with BDA
Battery Type:	3.7V @1200mA Lithium Ion
RF Connectors:	RP SMA Female
Rated Audio/Distortion:	>250mW @5% THD
Operating Voltage:	3.7VDC
Operating Temperature:	-20°C to +50°C /-4°F to +122°F
Shock & Vibration:	Mil Std 810 C/D/E/F
Humidity/Rain/Dust:	IEC529, IP55 (spk mic only)
Type Acceptance:	CE, FCC, IC, Aust/NZ

Type Acceptance

FCC ID: I7OBT-24H / I7OBT-24D

IC:11443A-X10DRSM
IC:11443A-X10DRMD

CE 0681 ⓘ N13187

Location of labelling

NOTE:

X10DR is designed to best perform when worn with the antenna protuding above your shoulder.

Range is always dependent on the local terrain and communications environment. For longer distances an external antenna should always be fitted to the vehicle.

A variety of vehicle antenna configurations are available to enhance into-building penetration or, to simply extend the overall communication zone around your vehicle. Ask your dealer which antenna configuration best suits your specific application.

Units operate in the 2.4GHz unlicensed band and may be subject to external interferences from others at times.

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